

TABLE 4. LONG-TERM COSTS OF AUTHORIZING \$100 MILLION IN INTEREST-CREDIT RURAL HOUSING ASSISTANCE IN 1983
UNDER A RANGE OF OPTIONS TO LOWER COSTS (In millions of 1983 dollars)

Program	Low Real Interest Rates, Low Inflation	Low Real Interest Rates, High Inflation	High Real Interest Rates, Low Inflation	High Real Interest Rates, High Inflation
<u>Section 502</u>				
Net Costs Under Current Program ^a	27	23	29	24
Net Costs Resulting from:				
Requiring borrowers to pay 25 percent, rather than 20 percent, of income for principal, interest, taxes and insurance	13	15	16	17
Recapturing 50 percent of net property appreciation, instead of a variable percentage	18	20	21	21
Requiring borrowers to pay 25 percent of income for principal, interest, taxes, and insurance and recapturing 50 percent of net property appreciation	6	13	9	14
<u>Section 515</u>				
Net Costs Under Current Program ^b	54	70	100	76
Net Costs Resulting from:				
Requiring tenants to pay the lesser of 30 percent of income, rather than 25 percent, and the minimum project rent	7	50	54	55

SOURCE: Congressional Budget Office. See Appendix for further details on the assumptions underlying each alternative.

a. See Table 1 for details.

b. See Table 2 for details.

borrowers in 1983 would generally be required to pay less than 50 percent of the net property appreciation when the property is sold.

One option for increasing the recapture share would be to require that recipients pay the lesser of the amount of assistance received or 50 percent of the net property appreciation, as is the case in the Section 235 homeownership program. Changing the recapture provision in this way would increase the amount of subsidy recaptured by up to two-thirds and would reduce the net cost per \$100 million of assistance from a range of \$23 million to \$29 million in 1983 dollars to a range of \$18 million to \$21 million. Increasing the amount of subsidy recaptured by the federal government would reduce the costs of the program but could reduce the incentives for recipients to maintain their properties. This could limit property value appreciation and thus the amount of its subsidy the federal government would recapture.

If the amount of recapture was increased to 50 percent and borrowers were also required to contribute 25 percent of income for principal, interest, insurance, and taxes, then net program costs would decline to a range of \$6 million to \$14 million per \$100 million lent--40 to 80 percent below the costs that would otherwise be incurred.

Increasing the Rent Levels Paid by Occupants of Section 515 Projects

The FmHA currently requires that Section 515 project tenants pay 25 percent of their incomes as rent. Low-income households in general pay an average of over 40 percent of their incomes for rent,⁷ and renter households assisted by HUD housing programs will be required to pay 30 percent by 1986. If the Congress required that occupants of Section 515 projects pay the greater of the minimum rent level or 30 percent of their income, rather than 25 percent of income, then the cost in 1983 dollars per \$100 million

-
7. This estimate is based on households living outside Standard Metropolitan Statistical Areas with 1980 incomes below \$10,000. See: The U.S. Department of Commerce, Bureau of the Census, Current Housing Report, Series H-150-80, Financial Characteristics of the Housing Inventory for the United States and Regions: 1980, Annual Housing Survey: 1980, Part C, Table A-1, p. 35.

of aid would decline anywhere from 30 to 90 percent--from a range of \$54 million to \$100 million to a range of \$7 million to \$55 million.

Increasing the share of income paid would decrease program costs and would increase uniformity of treatment among federal housing programs. On the other hand, increasing rent levels for low-income households would reduce the funds they would have available for other necessities and could increase their economic hardship.

CHAPTER IV. THE BUDGETARY TREATMENT OF RURAL HOUSING PROGRAMS AND OPTIONS FOR MAKING COSTS MORE APPARENT

The Section 502 and the Section 515 programs, along with three much smaller loan programs, are financed through the Rural Housing Insurance Fund (RHIF), a revolving loan fund administered by the FmHA.¹ In a revolving fund, program costs can be obscured because of the budgetary treatment of the fund's activities. This chapter first describes the budget treatment of the RHIF. It then discusses how the current treatment obscures program costs and suggests alternative ways of making costs more apparent.

THE OPERATION OF THE RHIF

Each year, the Congress establishes the total volume of loan activity that may be generated from the RHIF and sets the distribution between interest-credit and non-interest-credit loans. This activity is then financed through the four sources of funding available to the RHIF. The FmHA's annual budget submission lists proposed funding levels, the one-year cost of all outstanding loans, and budget authority and outlay levels. None of these, however, is a measure of the full federal expense for rural housing activity or of the total costs that would result from new rural housing lending.

RHIF Funding Sources

To finance the rural housing activity authorized by the Congress, the RHIF relies on four sources: asset sales to the Federal Financing Bank (FFB), borrowing from the U.S. Treasury, borrower repayments, and Congressional appropriations.

-
1. The Section 504 very-low-income housing repair, Section 514 farm labor housing, and Section 524 rural housing site loan programs are also financed through the Rural Housing Insurance Fund (RHIF). These programs currently represent about 1 percent of annual RHIF activity.

Federal Financing Bank Transactions. FFB--an offbudget agency within the Treasury Department that coordinates federal agency borrowing--is the primary source of RHIF financing.² The RHIF obtains long-term financing for its activities by packaging the mortgages it makes into securities called certificates of beneficial ownership (CBOs) and selling them to the FFB. This, in effect, allows the RHIF to redeem the principal value of the mortgages backing the CBOs at the time of the sale, rather than waiting for borrowers to repay the principal. The term of CBOs is currently 15 years, which represents the expected average life of the mortgages backing them. The interest rate that the RHIF pays on a CBO is set at the previous day's Treasury borrowing rate for securities with comparable maturity, plus 0.125 percent for administrative costs. In May 1982, the RHIF paid 14.0 percent on a CBO sale to the FFB.

Although the transactions between the RHIF and the FFB are treated by law as asset sales, they may be viewed more accurately as borrowing.³ When the FmHA "sells" a CBO to the FFB, the FFB does not take possession of the mortgages backing the security. Instead, the FmHA continues to own the mortgages and to service them. In addition, the FmHA guarantees the timely payment of interest and the redemption of the CBO at its maturity, which means that the FFB is not purchasing a pool of mortgages that carries some risk but, rather, is lending to the FmHA based on the agency's guarantee.

Treasury Borrowing. A second source of RHIF funding is direct borrowing from the U.S. Treasury. The RHIF has permanent, indefinite authority to borrow from the Treasury, which means that it may borrow on an unsecured basis any amount needed to finance Congressionally-authorized program activity. The interest rate paid by the RHIF on its short-term Treasury borrowing is set by law at the average interest on all outstanding long-term Treasury securities. This rate, established at the start of each fiscal

-
2. For a further description of the Federal Financing Bank's activities see: Congressional Budget Office, The Federal Financing Bank and the Budgetary Treatment of Federal Credit Activities (January 1982).
 3. The treatment of this transaction as the sale of assets is authorized by P.L. 81-171 and by P.L. 87-128, as amended.

year, was 8.6 percent in 1981 and is 9.4 percent in 1982.⁴ By setting the rate charged the RHIF on short-term borrowing at the rate paid on outstanding long-term securities, however, the cost to the Treasury is underestimated whenever short-term rates are above average outstanding long-term rates--as they currently are. If short-term rates declined sharply and were below average outstanding long-term rates, then the rate paid by the RHIF would overestimate the cost to the Treasury.

Borrower Payments. The third source of funding for the RHIF is borrower principal and interest payments. Borrowers are required to make periodic payments on their mortgages, and FmHA uses these collections to offset the current expenses of the fund.

Appropriations. The final source of RHIF funding is Congressional appropriations. Each year, the FmHA reports its interest-subsidy and foreclosure costs for the entire loan portfolio for the most recent year for which these are known--generally two years previous. The Congress then provides an appropriation to reimburse the RHIF for these costs. Thus FmHA's 1983 budget submission reported that the RHIF interest subsidies and foreclosure losses for 1981 totaled \$1.0 billion. In addition, the FmHA also provides estimates of the costs for the current and coming years. Current estimates are that RHIF losses will total \$1.5 billion in 1982 and \$1.7 billion in 1983.

The Budgetary Treatment of the RHIF

Each year, the budget for the RHIF includes three measures of program activity: the loan volume financed through the RHIF for the year ended, the current year, and the coming year; the annual cost of the loan portfolio for each year; and budget authority and outlay levels. Each of these measures reflects a different aspect of RHIF activity, but none is a complete measure of program costs.

The loan volume and the annual loan portfolio costs are both straightforward measures of program activity. The loan volume,

-
4. The budgetary treatment of the RHIF's CBO sales differs from the treatment of its Treasury borrowing. Thus it may be more advantageous--in terms of resulting budget authority and outlay totals--for the RHIF to finance activity through CBO sales, despite their higher interest rates, than through Treasury borrowing. This is discussed in more detail below.

established annually by the Congress, is the measure of the new commitments that the FmHA may make during the year. The reported annual program cost--which is the basis for the appropriation to the RHIF--is the sum of interest subsidies and foreclosure losses incurred during the year for all outstanding RHIF commitments.

Budget authority and outlay levels are more difficult to estimate and interpret. For a revolving fund such as the RHIF, budget authority and outlays in any given year are the net results of the fund's operation.

The RHIF requires budget authority for all activities that commit the federal government to an expenditure of funds, but other activities offset its budget authority needs. Budget authority is needed to obligate loan funds, to borrow from the Treasury, to pay interest on CBOs and on Treasury borrowing, and to redeem expiring CBOs (see Table 5). The fund's budget authority requirements are offset by borrower principal and interest payments and by CBO sales to the FFB. It is the RHIF's net budget authority needs--that is, total requirements offset by borrower payments and CBO sales--that are reported as the RHIF budget authority in the FmHA budget submission. These net budget authority needs are met through the RHIF's other two funding sources. The past-loss appropriations, while determined by the size of losses two years earlier, is used to meet current-year budget authority needs. To the extent that the RHIF has remaining budget authority requirements, it then exercises the fund's permanent, indefinite authority to borrow from the Treasury.

Outlays for any year are the net result of collections and expenditures. The RHIF spends money, or records outlays, when it disburses loan funds, when it makes interest payments, and when it redeems outstanding CBOs. The fund makes collections when it sells CBOs to the FFB and when it receives interest from program participants on their outstanding mortgages.⁵ In any one year, total RHIF outlays may be positive, signifying more expenditures than collections by the fund, or negative, signifying more collections than expenditures.

5. Borrower principal repayments do not directly affect outlay levels. All borrower repayments reduce the value of mortgages securing outstanding CBOs. So borrower principal payments are used, in effect, to maintain the fully-secured status of the CBOs.

TABLE 5. COMPONENTS OF BUDGET AUTHORITY AND OUTLAYS IN THE RURAL HOUSING INSURANCE FUND

	Budget Authority		Outlays	
	Activities That Require Budget Authority	Activities That Offset Budget Authority Requirements	Expenditures from the RHIF (Positive Outlays)	Collections That Offset Expenditures (Negative Outlays)
Program Activities				
Loan obligations	X			
Loan disbursements			X	
Borrower principal payments ^a		X		
Borrower interest payments		X		X
Financing Activities				
Sale of CBOs to the Federal Financing Bank (FFB)		X		X
Interest payments on CBOs held by the FFB	X		X	
Repurchase of CBOs at maturity	X		X	
Interest payments on Treasury debt ^b	X		X	

SOURCE: The Congressional Budget Office.

- a. Borrower principal repayments do not directly affect outlay levels. Because CBO sales are secured by mortgages, repayments of principal act to maintain the security of the outstanding CBOs.
- b. The RHIF's borrowing from the Treasury does not affect fund outlays. The RHIF must exercise its permanent indefinite borrowing authority to borrow from the Treasury, but it records neither positive or negative outlays for the transaction.

Because budget authority and outlay levels for the RHIF are the net result of fund transactions, they are difficult to predict from year to year. The major discretionary factor affecting these budget totals is the sale of CBOs to the FFB. Loans disbursed during a year may be packaged into CBOs and sold to the FFB, thus offsetting budget authority requirements and outlay levels. The RHIF is not required, though, to finance its activity through CBO sales to the FFB and may choose, instead, to finance through Treasury borrowing.⁶ But because CBO sales offset budget authority requirements and outlays and Treasury borrowing does not,⁷ the decision has a large impact on RHIF budget totals. In addition, predicting the net interest expenses of the fund and the patterns of borrower defaults can be difficult, especially in times of rapidly fluctuating interest rates or during a recession. This also makes the budget estimates for the RHIF difficult to generate.

DIFFICULTIES WITH THE CURRENT BUDGETARY TREATMENT AND OPTIONS FOR MODIFYING IT

While the Congress has available three measures of RHIF activity, none of these represent program costs that can be compared to the reported costs of other programs. Under the current budgetary treatment, the unified budget does not include all federal expenditures associated with rural housing programs. Also, the annual costs attributed to outstanding loans do not include all federal costs. Finally, estimates of the expected long-term cost of new commitments are not available at the time they are made.

The budgetary treatment of rural housing programs could be modified in several ways to provide estimates that are comparable to other programs' costs. Treating the RHIF transactions with the FFB as borrowing, rather than as asset sales, would include in the unified budget all federal expenditures associated with rural

-
6. If the fund managers believed, for example, that CBO rates would fall in the next year they might elect to borrow on a short-term basis from the Treasury, rather than to sell long-term CBOs to the FFB.
 7. The RHIF must exercise its permanent, indefinite authority to borrow from the Treasury, but it records neither positive nor negative outlays for the transaction.

housing loans. Changing the interest rate paid by the RHIF on its Treasury borrowing to equal the short-term borrowing rate would include the total annual cost of RHIF programs in FmHA estimates. Fully funding rural housing loans at the time commitments are made, rather than on a pay-as-you-go basis, would enable the Congress to consider the long-term costs of the loans, as would requiring the FmHA to include estimates of the long-term costs in its proposals for new funding levels.

Treating RHIF Transactions with the FFB as Borrowing

Treating the RHIF's transactions with the FFB as asset sales reduces the on-budget expenditures of rural housing programs by transferring expenditures to the off-budget FFB.⁸ When the RHIF sells a CBO to the FFB, RHIF budget authority requirements and outlays decrease by the amount of the sale, while the FFB's budget authority and outlays increase by the same amount. Although the FFB is also a federal agency, its budget totals are not included in the unified budget, and hence this federal expenditure for rural housing assistance is missing from unified budget totals.

If RHIF transactions with the FFB were treated as borrowing rather than as asset sales, the actual expenditures for rural housing programs would not change, but totals included in the unified budget would increase. In 1981, CBO sales from the RHIF totaled \$6 billion. Had the sales been treated as borrowing, RHIF budget authority requirements would have totaled \$6.6 billion, instead of \$0.6 billion, and outlays would have gone from -\$0.1 billion to \$5.9 billion. Similarly, federal expenditures in the unified budget and the unified budget deficit would have increased by \$6.0 billion. Thus, treating CBO sales as borrowing, instead of as asset sales, would include the total expenditures for rural housing loan programs in the budget but would also raise unified budget spending totals.⁹

-
8. Treating RHIF transactions with the FFB as asset sales, rather than as borrowing, does not, however, affect program costs. Because the RHIF pays an interest rate based on the government cost of borrowing, the full interest-subsidy cost of the transaction is included in the budget.
 9. The Senate Banking Committee has proposed treating RHIF transactions with the FFB as borrowing instead of as sales. See S. 2607 and accompanying report 97-463.

Changing the Interest Rates Charged by the Treasury

The interest rate paid by the RHIF on short-term Treasury borrowing does not reflect the Treasury's cost of lending, which at times leads to underestimated program costs. When the FmHA reports the interest-subsidy costs of the portfolio for the most recent year known, the costs include the interest paid by the RHIF to the Treasury. But because the RHIF's borrowing rate is based by law on the average rate of outstanding long-term securities, rather than of short-term securities, the rate that the Treasury must charge does not reflect its actual costs of providing short-term funds to the RHIF. Under current circumstances, the Treasury rate charged the RHIF underestimates actual costs; if short-term rates were lower than outstanding security rates, costs would be overestimated.

If the RHIF paid interest rates on its short-term borrowing equivalent to short-term Treasury borrowing rates, the total federal costs of rural housing programs would not change but the costs allocated to rural housing programs would--under current interest rate patterns--increase. In fiscal year 1981, the RHIF had an average of about \$1.7 billion in short-term debt outstanding with the Treasury. The interest costs for this borrowing totaled \$140 million. Had the Treasury charged the RHIF the average rate paid on three-month Treasury securities, rather than the average rate on outstanding long-term securities, the cost to the RHIF would have been \$240 million, an increase of 70 percent. Thus, the total reported cost of outstanding rural housing assistance in 1981 would have gone from \$1,030 million to \$1,130 million.¹⁰

-
10. If RHIF transactions with the FFB were no longer treated as asset sales, then the differential between Treasury borrowing rates and CBO rates would become particularly important. Currently, because CBO sales reduce outlays, the FmHA may choose to finance RHIF activities through the FFB, rather than directly through the Treasury, despite the higher interest rates charged on CBOs. But if neither form of financing reduced fund outlays and if Treasury interest rates were considerably below the FFB's, then the FmHA could choose to fund RHIF activities entirely through the Treasury. But since the Treasury interest rate does not reflect the full cost of the federal financing provided, the improvement in budget estimates gained by converting CBO sales to CBO borrowing would be partially offset by the underestimate of Treasury borrowing costs.

Providing Full Funding in Advance for Rural Housing Programs

Under current budget practices, the Congress does not consider the long-term cost of rural housing commitments at the time they are made. The Congress authorizes a volume of loans each year but specifies no ceiling it expects to be maintained on long-term costs. The FmHA reports the annual cost of outstanding loans only after the costs have been incurred.¹¹ If the Congress authorized the total long-term cost of the commitments at the time they were made, then it would be able to compare these costs to the costs of other federal programs.

Fully funding the entire 33- or 50-year costs of rural housing programs could be done in several ways. One approach would be to include in the annual authorization sufficient funding to cover all anticipated interest-subsidy costs and losses due to default for the new commitments. To the extent that borrowers prepaid their mortgages before the term ended and that recapture and overage collections offset these costs, however, FmHA would have unused authority, which could revert to the Treasury. Another approach would be to include in the budget the expected net costs of the program, including expected prepayments and anticipated collections from recapture and overage payments. If these estimates proved too low, however, it could be necessary to provide further funding authority for the commitments.

Funding the full costs of rural housing loan programs in advance would make the costs easier to compare to other program costs and would allow the Congress to consider the long-term cost implications of new assistance commitments. It would, on the other hand, require large increases in budget authority, with the exact amount required dependent on the provisions made for offsetting collections. In addition, the FmHA could require additional resources to produce such estimates on an annual basis.

Requiring FmHA to Provide Long-term Cost Estimates

As an alternative to funding rural housing loan programs in advance, the Congress could request that the FmHA provide long-term cost estimates as part of its annual budget submission. Like

11. As previously described, however, the costs reported by the FmHA are currently underestimates because of the low interest rates paid on Treasury borrowing.

the estimates provided in this paper, these estimates could outline the interest rate that borrowers would be expected to pay on their loans both initially and over time, the interest rate that the RHIF would expect to pay on its financing, the anticipated patterns of mortgage foreclosures and prepayments, and the effects of offsetting collections from recapture and overage payments. The FmHA could also be required to report on the relationship between past estimates of program costs and actual expenditures, allowing the Congress to judge whether spending was increasing or decreasing from anticipated levels. Such estimates could assist the Congress in determining both the overall funding for rural housing programs and the distribution of funding among individual programs. They would, however, require that FmHA devote additional resources to the development of these estimates and could therefore increase the agency's administrative costs.

APPENDIX. ASSUMPTIONS USED TO DEVELOP LONG-TERM COST ESTIMATES

This appendix describes the assumptions used to develop the long-term cost estimates presented in Chapter III. The near-term economic assumptions used are consistent with the Congressional Budget Office winter 1982 forecast.¹ The long-term economic assumptions have been selected to display program costs under a wide range of future economic conditions. As such, no one long-term scenario represents a forecast of likely future conditions. Instead, the four scenarios--taken together--encompass a range of possible economic outcomes. As shown in Chapter III, however, a wide range of economic assumptions produces a relatively narrow range of cost outcomes when costs are all converted to constant-value dollars.

SECTION 502 ASSUMPTIONS

As described in Chapter III, the costs of Section 502 interest-credit mortgages are the interest subsidies and the losses due to mortgage foreclosures, which are offset by the program's subsidy recapture provisions. (The assumptions used to develop Section 502 estimates are summarized in Table A-1, at the end of this appendix.)

Interest-Subsidy Costs

The interest-subsidy cost of Section 502 interest-credit lending is the difference between the interest rates paid by borrowers and the interest rate paid by the RHIF on funds used to finance the program. Both borrower and RHIF interest rates may vary over time.

Borrower Interest Rates. Although all interest-credit mortgages are written at the current FmHA note rate, the effective interest rate charged borrowers is set so that borrowers spend 20

-
1. For more information on the economic forecast, see Congressional Budget Office, The Prospects for Economic Recovery (February 1982).

percent of their adjusted annual income on principal, interest, tax, and insurance payments. Borrower incomes are recertified every two years, at which time the effective interest rate is increased, decreased, or left unchanged to preserve the housing-cost-to-income ratio of 20 percent.

Section 502 commitments are written at the current note rate, but, if the note rate has fallen between the time of commitment and actual disbursement of loan funds, the note rate is adjusted downward. In these estimates, 88 percent of 1983 obligations are assumed to be disbursed in 1983, with the FmHA note rate averaging 11.8 percent. The remaining 12 percent of 1983 obligations are assumed to be disbursed in early 1984, when note rates are assumed to have fallen to 11.4 percent.

The effective interest rate assumed to be paid initially on commitments is determined by unit costs and borrower income levels. The average unit financed by 1983 obligations is assumed to cost \$42,000. Adjusted borrower incomes are assumed to average \$15,000, or the current average income ceiling for low-income borrowers. Taxes and insurance are assumed to be 2.1 percent of property value. Under these assumptions, borrowers are assumed to pay an effective interest rate of 3.4 percent, which would enable them to spend 20 percent of their incomes for principal, interest, tax, and insurance payments.²

The income of Section 502 interest-credit borrowers is assumed to be recertified every two years, as is current practice. Borrower incomes are assumed to increase in the long run by 1.5 percent a year in real terms, or 4.5 to 10.5 percent in nominal terms. Property values are assumed to increase at the same rate as prices in general, or 3 to 9 percent in nominal terms, and tax and insurance payments to remain a constant 2.1 percent of property value. Under these assumptions, borrower interest rates are expected to grow continually and to reach the note rate within 11 to 17 years, depending on the scenario examined.

Borrower interest payments are also affected by borrowers who pay off their debts before the end of the 33-year term. Estimates of the percent of borrowers that leave the program each year dur-

-
2. Initial borrower interest rates are assumed to average 4.0 percent for 1983 obligations disbursed in 1984, reflecting the assumed increase in borrower incomes and tax and insurance costs.

ing the first ten years--due either to prepayment or to foreclosure--are based on estimates from the FmHA. The estimates of mortgages closed during years 11 and 33, and all estimates of the distribution of closed mortgages between prepayments and foreclosures, are based on estimates from the Federal Housing Administration for the Section 203 single-family mortgage insurance program, with adjustments to convert 30-year data to 33-year estimates (see Table A-2).³ In general, about 45 percent of borrowers prepay their mortgages by year 15, and 83 percent are assumed to prepay by year 32. Because the FmHA does not have to continue financing mortgages that are prepaid, the effect of prepayments is, in general, to lower federal interest costs.

Federal Interest Rates. The interest rates that the FmHA pays on program financing determine the gross interest costs of rural housing loans. In these estimates, the FmHA is assumed to sell 15-year certificates of beneficial ownership (CBOs) to the Federal Financing Bank to finance the disbursements made in 1983 and 1984. The interest on these securities is expected to be 12.4 percent in 1983 and 12.0 percent in 1984. To display a range of possible program costs over the long term, subsequent CBO interest rates are assumed to vary from 1 to 4 percent in real terms, or from 4 to 13 percent in nominal terms.

Net Interest Subsidies. The assumptions described above may overstate program costs. Borrower interest rates are assumed to start at 3.4 percent and to increase at two-year intervals until they reach the note rate of either 11.8 percent or 11.4 percent, depending on the year of disbursement. Federal interest costs are assumed to begin at 12.4 percent for mortgages financed in 1983 and at 12.0 percent for those financed in 1984 and then to range from 4 to 13 percent over the long term. This means that some borrowers would be expected to continue paying note rates above prevailing market rates. Although borrower prepayments would probably increase if market rates were below note rates for an extended period of time, these estimates do not reflect such responses.

3. See: U.S. Department of Housing and Urban Development, Office of Financial Management, Actuarial Division, Survivorship and Decrement Tables for HUD/FHA Mortgage Insurance Programs as of December 31, 1980 (July 1981).

Foreclosure Losses

The second cost of Section 502 interest-credit mortgages is borrower defaults leading to foreclosure.⁴ As described earlier, estimates of borrower defaults leading to foreclosure are based in part on FmHA data about Section 502 program experience and in part on Federal Housing Administration data (see Table A-2). Over the term of the commitments, the FmHA is assumed to acquire about 6.8 percent of all mortgages, with virtually all foreclosures coming within the first ten years. The FmHA is assumed to sell foreclosed properties and to recoup 91 percent of the principal and interest due.

Cost Offsets from Subsidy Recapture

Offsetting the interest subsidies and foreclosure losses of Section 502 interest-credit loans is the recapture provision. Under this provision, Section 502 interest-credit borrowers repay at least a portion of the subsidy received at the time they sell their properties, provided the homes have appreciated in value.

The Section 502 recapture provisions specify that borrowers repay the lesser of the interest subsidy received and some percentage of net property appreciation. The subsidy received is defined by the FmHA as the difference in interest actually paid by the borrower and interest that would have been paid if the borrower had paid the note rate.⁵ Net appreciation is defined by the FmHA as the property sales price less: the amount of principal outstanding, any down payment made by the borrower, the borrower's equity acquired through principal repayments,⁶ and selling costs, if any. Borrowers may not deduct the value of any improvements

-
4. In actuality, some borrowers who are in default voluntarily convey their properties to the FmHA. In these estimates, voluntary conveyances are grouped with foreclosed mortgages.
 5. This definition does not always include the full federal interest cost, however. At the present time, CBO rates are 14.0 percent while the FmHA note rates at which mortgages are written are 13.5 percent. Thus the note rate does not represent the full federal interest cost.
 6. The principal repayment due to the reduced interest rate paid by the borrower may not be deducted and is paid to FmHA.

made to the property. The balance after these deductions is the amount subject to recapture. FmHA receives the lesser of the full amount of the subsidy or a fixed percent of appreciation that ranges from 9 to 78 percent, depending on the average interest rate paid by the borrower and the number of months the mortgage was outstanding (see Table A-3).⁷

The assumptions used to estimate the effect of the recapture provisions are that: property value appreciates at the rate of prices in general; borrowers make no downpayments on their mortgages; and selling costs are 3.4 percent of sales price. Under these assumptions, the fixed share of net appreciation is always smaller than the total subsidy provided, so that is the amount collected by the FmHA.

Fiscal Year 1983 Cost Estimates

All costs and collections were estimated in current dollars and then converted to 1983 dollars using the assumed annual increase in consumer prices. Prices in general were assumed to move upward over the long run by 3 to 9 percent a year, depending on the scenario examined. Costs were converted to 1983 dollars by reducing each current dollar estimate by the assumed percentage increase in prices over the period between 1983 and the year in which a cost was incurred.

SECTION 515 ASSUMPTIONS

As with Section 502 interest-credit mortgages, the major cost of Section 515 interest-credit loans is the interest subsidy required. Offsetting this cost is the overage provision, whereby tenant rents above minimum required levels are paid to the FmHA and are treated as additional interest income. (The assumptions used to develop Section 515 costs are summarized in Table A-4.)

-
7. If a borrower carries a mortgage for the full term, the amount subject to recapture is calculated at the time the mortgage is closed but is not due until the property is sold or the borrower ceases to use the home as a principal residence.

Interest Subsidy Costs

In the Section 515 interest-credit program, all loans are written at the current FmHA note rate, but borrowers receive interest-credit agreements reducing the effective interest rates to 1 percent. Section 515 note rates are set at the time commitments are made, but--as with Section 502 commitments--if interest rates decline between the time of obligation and disbursement, then note rates are set at the rates prevailing at the time of disbursement. Section 515 funds obligated in one year are generally disbursed over four years. Twenty percent of 1983 commitments would be disbursed in 1983; 55 percent in 1984; 20 percent in 1985, and the remaining 5 percent in 1986. FmHA note rates are set at 11.8 percent in 1983 and vary from 9.2 to 12.8 percent by 1986.

No loans are assumed to be prepaid in these estimates. The Congress has stipulated that Section 515 borrowers may not prepay their mortgages during the first 20 years of the term if the area in which the project is located has any unmet need for low- and moderate-income housing.⁸ This effectively limits prepayments during this period, and there is no program experience on which to speculate about prepayment patterns in the later 30 years.

The federal cost of financing Section 515 activity is assumed to follow patterns similar to those assumed for Section 502 estimates. The FmHA is expected to sell CBOs at rates averaging 12.4 percent in 1983 and ranging over the long run from 1 to 4 percent in real terms, or 4 to 13 percent in nominal terms.

Foreclosure Losses

In the Section 515 program, the FmHA forecloses on few properties, so no losses due to default or foreclosure are assumed. Section 515 borrowers are required to invest in their projects. If a project develops problems, the owner is more likely to sell the project to protect his equity than to default and allow the FmHA to foreclose. In 1981, the FmHA had four multifamily projects in its inventory of acquired projects out of a portfolio of about 7,900 loans.

8. Section 502(c) of the Housing Act of 1949, P.L. 81-171, as amended.

Cost Offsets from Overage Collections

Although the overage provisions of the Section 515 program are designed to reduce program costs, the FMHA has little information on the effects of this provision. Consequently, the assumptions used to estimate the effects of the overage provision have a greater range of uncertainty than other assumptions.

Since a tenant must pay the higher of 25 percent of his income or the minimum project rent, the overage collected by the FmHA depends on tenant income and rent levels. Starting tenant incomes are assumed to range from \$10,000 to \$14,000, depending on the scenario, and to increase by 0.5 percent a year in real terms, or by 3.5 to 9.5 percent in nominal terms. These estimates assume that tenant incomes will increase at slower rates than Section 502 homeowner incomes. While the FmHA does not have information to support this, Annual Housing Survey data suggest that tenants' incomes in rural areas increase more slowly than rural homeowners' incomes.⁹

Rent levels for projects committed in 1983 would average \$300 in 1983, though few, if any, projects would be ready for occupancy that soon. Annual rent estimates have five components: principal and interest payments, operating and maintenance expenses, reserves, return on investment, and utilities. Principal and interest payments and the return on investment are assumed to be fixed over time, while operating and maintenance expenses, reserve requirements, and utility costs are assumed to increase at the same rate as prices in general.

Under these assumptions, tenants would initially pay 25 to 36 percent of their incomes to cover the minimum rent. By anywhere from year 2 to year 30, depending on the scenario, tenant incomes would have grown sufficiently so that the minimum rent level would be below 25 percent of income, and the FmHA would begin collecting overage.

9. According to the U.S. Department of Commerce, U.S. Bureau of the Census, Current Housing Reports, Series H-150, Urban and Rural Housing Characteristics for the United States and Regions, Annual Housing Survey: Part E, 1974 and 1977, Table A-1. Between 1974 and 1977, median nonfarm renter income in rural areas increased by 16 percent, while median nonfarm homeowner income increased by 25 percent.

Fiscal Year 1983 Cost Estimates

As with the Section 502 cost assumptions, Section 515 program costs are converted to 1983 costs using the assumed annual increase in consumer prices, set at 3 to 9 percent over the long run.

TABLE A-1. ASSUMPTIONS USED TO DEVELOP LONG-TERM COST ESTIMATES FOR SECTION 502 INTEREST-CREDIT MORTGAGES

	Low Real Interest Rates, Low Inflation	Low Real Interest Rates, High Inflation	High Real Interest Rates, Low Inflation	High Real Interest Rates, High Inflation
<u>Assumptions That Determine Interest Subsidies</u>				
Interest Rates Paid by the FmHA (percent)				
1983	12.4	12.4	12.4	12.4
1984	12.0	12.0	12.0	12.0
Subsequent sales	4.0	10.0	7.0	13.0
Note Rates Charged by the FmHA (percent)				
1983	11.8	11.8	11.8	11.8
1984	11.4	11.4	11.4	11.4
Initial Interest Rate Paid by Borrower (percent)				
1983	3.4	3.4	3.4	3.4
1984	4.0	4.0	4.0	4.0
Income Growth Rate (percent change from the previous year)				
1984	7.5	7.5	7.5	7.5
1985	7.0	8.5	7.0	8.5
1986	7.1	10.0	7.1	10.0
1987	6.8	10.0	6.8	10.0
1988	6.1	10.5	6.1	10.5
Subsequent years	4.5	10.5	4.5	10.5
Taxes and Insurance (as percent of current property values)				
	2.1	2.1	2.1	2.1
Percentage of Borrowers That Prepay Before the 33d Year ^a				
	83.2	83.2	83.2	83.2

(Continued)

TABLE A-1. (Continued)

	Low Real Interest Rates, Low Inflation	Low Real Interest Rates, High Inflation	High Real Interest Rates, Low Inflation	High Real Interest Rates, High Inflation
<u>Assumptions That Determine Default Losses^a</u>				
Percent of Borrowers that Default on Mortgages ^a	6.8	6.8	6.8	6.8
FmHA Loss on Acquired Properties (as percent of balance due)	9.1	9.1	9.1	9.1
<u>Assumptions That Determine Offsetting Collections Due to Recapture Provisions</u>				
Property Appreciation Rate (percent change from previous year)				
1984	7.0	7.0	7.0	7.0
1985	6.5	8.0	6.5	8.0
1986	6.1	9.0	6.1	9.0
1987	5.8	9.0	5.8	9.0
1988	4.6	9.0	4.6	9.0
Subsequent years	3.0	9.0	3.0	9.0
Selling Costs (as percent of sales price)	3.4	3.4	3.4	3.4

(Continued)				

TABLE A-1. (Continued)

	Low Real Interest Rates, Low Inflation	Low Real Interest Rates, High Inflation	High Real Interest Rates, Low Inflation	High Real Interest Rates, High Inflation
--	--	---	---	--

Assumptions Used to Convert Current Dollars to 1983 Dollars

Inflation Rate (percent
change in consumer prices
from previous year)

1984	7.0	7.0	7.0	7.0
1985	6.5	8.0	6.5	8.0
1986	6.1	9.0	6.1	9.0
1987	5.8	9.0	5.8	9.0
1988	4.6	9.0	4.6	9.0
Subsequent years	3.0	9.0	3.0	9.0

SOURCE: Congressional Budget Office. Assumptions illustrate potential economic conditions and program operation but are not forecasts.

- a. Further detail about borrowers' prepayment and default patterns is contained in Table A-2.

TABLE A-2. ASSUMPTIONS AS TO THE PERCENT OF SECTION 502 MORTGAGES MADE IN 1983 THAT WILL BE CLOSED ANNUALLY, EITHER BY FmHA ACQUISITION OR BY BORROWER PREPAYMENT^a

Year	Cumulative Percentage of Closed Mortgages	Annual Percentage of Mortgages Acquired by FmHA ^b	Annual Percentage of Mortgages Prepaid
1	1.1000	0.4131	0.6869
2	4.6000	1.4452	2.0548
3	9.9000	1.3523	3.9477
4	14.5000	1.0423	3.5577
5	18.6000	0.7766	3.3234
6	22.4000	0.5679	3.2321
7	25.0000	0.4154	2.1846
8	30.0000	0.2824	4.7176
9	34.0000	0.1830	3.8170
10	38.2000	0.1193	4.0807
11	41.7000	0.0737	3.4263
12	44.9000	0.0449	3.1551
13	47.9000	0.0268	2.9732
14	50.7000	0.0157	2.7843
15	53.4000	0.0091	2.6909
16	56.1000	0.0052	2.6948
17	58.8000	0.0029	2.6971
18	61.5000	0.0016	2.6984
19	64.2000	0.0008	2.6992
20	66.8000	0.0005	2.5995
21	69.3000	0.0003	2.4997
22	71.7000	0.0002	2.3998
23	74.0000	0.0001	2.2999
24	76.2000	0.0001	2.1999
25	78.3000	---	2.1000
26	80.2000	---	1.9000
27	82.0000	---	1.8000
28	83.6000	---	1.6000
29	85.2000	---	1.6000
30	86.8000	---	1.6000
31	88.4000	---	1.6000
32	90.0000	---	1.6000
33	100.0000	---	10.0000
TOTAL	100.0000	6.7794	93.2206

(Continued)

TABLE A-2. (Continued)

SOURCES: Totals for years 1-10 are based on estimates from the Farmers Home Administration. Totals for years 11-33 and the annual distribution of closed mortgages between acquisitions and prepayments are based on Federal Housing Administration estimates for the Section 203 single-family mortgage insurance program, with adjustments to convert 30-year data to 33-year estimates.

- a. These estimates are based on FmHA data that include interest-credit and non-interest-credit mortgages.
- b. Acquisitions include both mortgages that the FmHA must foreclose because of delinquency and those that borrowers voluntarily convey to the FmHA because of delinquency.

TABLE A-3. PERCENTAGE OF PROPERTY APPRECIATION THAT SECTION 502 INTEREST-CREDIT BORROWERS MAY BE REQUIRED TO PAY WHEN THE MORTGAGE IS TERMINATED^a

Number of Months the Loan Was Outstanding	Average Interest Rate Paid By Borrower Over Life of Mortgage (In percent)							
	1 or less	1.1 to 2	2.1 to 3	3.1 to 4	4.1 to 5	5.1 to 6	6.1 to 7	7.1 or greater
0 to 59	78	68	60	51	44	32	22	11
60 to 119	75	66	58	49	42	31	21	11
120 to 179	73	63	56	48	40	30	20	10
180 to 239	65	56	49	42	36	26	18	9
240 to 299	59	51	46	38	33	24	17	9
300 to 359	53	45	40	34	29	21	14	9
360 to 396	47	40	36	31	26	19	13	9

SOURCE: Code of Federal Regulations, Title 7, Part 1951, Subpart I, Exhibit A.

- a. A borrower would pay the lower of the total subsidy received or the net property appreciation multiplied by the appropriate percentage from this table. In the case of borrowers who hold the mortgage for the full 33-year term, the amount subject to recapture is calculated at the time the mortgage debt is retired, but it is not due until the borrower ceases to use the dwelling as a principal residence or sells the property.

TABLE A-4. ASSUMPTIONS USED TO DEVELOP LONG-TERM COST ESTIMATES FOR SECTION 515 INTEREST-CREDIT MORTGAGES

	Low Real Interest Rates, Low Inflation	Low Real Interest Rates, High Inflation	High Real Interest Rates, Low Inflation	High Real Interest Rates, High Inflation
<u>Assumptions That Determine Interest Subsidies</u>				
Interest Rates Paid by the FmHA (percent)				
1983	12.4	12.4	12.4	12.4
1984	12.0	12.0	12.0	12.0
1985	10.2	11.7	10.5	12.0
1986	9.4	12.3	10.1	13.0
Subsequent years	4.0	10.0	7.0	13.0
Note Rates Charged by the FmHA (percent)				
1983	11.8	11.8	11.8	11.8
1984	11.4	11.4	11.4	11.4
1985	9.9	11.4	10.2	11.7
1986	9.2	12.1	9.9	12.8
Effective Interest Rates Paid by Borrowers (percent)				
	1.0	1.0	1.0	1.0
<u>Assumptions That Determine Overage Collections</u>				
Initial Tenant Incomes				
Percent at 10,000	33.3	50.0	66.7	50.0
Percent at 12,000	33.3	50.0	33.3	50.0
Percent at 14,000	33.3	0.0	0.0	0.0

(Continued)

TABLE A-4. (Continued)

	Low Real Interest Rates, Low Inflation	Low Real Interest Rates, High Inflation	High Real Interest Rates, Low Inflation	High Real Interest Rates, High Inflation
Income Growth Rates (percent change from previous year)				
1984	7.0	7.0	7.0	7.0
1985	6.5	8.0	6.5	8.0
1986	6.6	9.5	6.6	9.5
1987	6.3	9.5	6.3	9.5
1988	5.6	9.5	5.6	9.5
Subsequent years	3.5	9.5	3.5	9.5
Average Unit Cost (dollars)				
	35,700	35,700	35,700	35,700
Initial Minimum Rent Levels per Unit (dollars per month) ^a				
	297	297	297	297
Principal and interest	76	76	76	76
Operating and maintenance	117	117	117	117
Utilities	64	64	64	64
Reserve requirements	28	28	28	28
Return on investment	12	12	12	12
Rates of Increase in Operating and Maintenance Costs, Reserve Levels, and Utilities (percent)				
1984	7.0	7.0	7.0	7.0
1985	6.5	8.0	6.5	8.0
1986	6.1	9.0	6.1	9.0
1987	5.8	9.0	5.8	9.0
1988	4.6	9.0	4.6	9.0
Subsequent years	3.0	9.0	3.0	9.0

SOURCE: Congressional Budget Office. Assumptions illustrate potential economic conditions and program operation but are not forecasts of future conditions.

- a. The minimum rent includes the principal and interest payment associated with a 1 percent mortgage.

